



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,799	08/25/2003	Michael W. McCarty	06005/39598	2349
4743	7590	05/05/2006	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			SAN MARTIN, EDGARDO	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/647,799

Applicant(s)

MCCARTY, MICHAEL W.

Examiner

Edgardo San Martin

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bervig (US 4,392,062).

Bervig teaches a plurality of spargers (Fig.3, Item 45) adapted for placement within a duct (Fig.3, Item 34) having a first fluid flow, the first fluid flow being substantially parallel to a longitudinal axis of the duct; at least one of the plurality of spargers (Fig.3, Item 45) comprising a housing having an interior chamber (Fig.3, Item 54) for receiving a second higher pressure fluid flow such that the housing forms a plurality of fluid passageways (Fig.3, Item 49) to allow the second fluid of higher pressure to flow through the chamber (Fig.3, Item 54) and enter the first fluid flow within the duct at a decreased pressure; and the at least one of the plurality of spargers being shaped to have a profile to substantially reduce the aerodynamic resistance of the spargers (Fig.3; Col.3, Lines 8 – 13 and Col.7, Lines 29 – 56).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2 – 4, 6, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bervig (US 4,392,062) in view of Wears et al. (US 6,026,859).

Bervig teaches the limitations discussed in a previous rejection, but fail to disclose the limitations described in the abovementioned claims.

Regarding claims 2 – 4, 8 and 10, Wears et al. teach a fluid pressure reduction device (Fig.4) wherein a housing is comprised of a plurality of stacked disks (Fig.4, Items 32(a,b) and 34(a,b)) aligned about a central axis of the stacked disks; wherein each disk is selectively positioned in the stack of disks to form the fluid passageways, each disk having (a) fluid inlet slots (Fig.4, Item 40) partially extending from a hollow disk center towards a disk perimeter, (b) fluid outlet slots (Fig.5, Item 42) partially extending from the disk perimeter towards the disk center, and (c) at least one plenum slot (Fig.3, Item 44) extending through the disk to enable fluid flow from the fluid inlet slots in one disk to the plenum slots in adjacent disks and to the fluid outlet slots in at least one disk, wherein the fluid flow path is split into a plurality of axial directions along the central axis, then into the plenum slots with a plurality of lateral flow directions, and then distributed through multiple outlet slots in at least one disk; and wherein the plenum slot in the adjacent disk also enables fluid flow from the fluid inlet slots in one

Art Unit: 2837

disk to be coupled to multiple fluid outlet slots in respective disks in the stack adjacent to the adjacent disk (Fig.5; Col.3, Line 20 – Col.4, Line 63).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Wears et al. configuration with the Bervig design because the Wears et al. disks configuration would provide a reduction in fluid pressure maintaining a steady flow of the fluid, and in the case that the flow capacity changes, the flow capacity of the fluid after passing through the pressure reduction device would be substantially linear.

With respect to claims 6 and 11, the Examiner considers that it would be an obvious matter of design choice to eliminate elements from the Wears et al. configuration in order to obtain a device wherein the fluid inlet slots and the fluid outlet slots are formed within a flow sector and the plenum slot is formed a plenum sector wherein the flow sector and plenum sector are joined to form an individual disk, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 136 USPQ 184, furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

3. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bervig (US 4,392,062) and Wears et al. (US 6,026,859), and further in view of Sherikar et al. (US 6,739,426).

Bervig and Wears et al. teach the limitations discussed in a previous rejection, but fail to disclose wherein each respective fluid passageway is comprised of a tortuous

Art Unit: 2837

flow path with each tortuous flow path remaining independent from each other in traversing through the disk.

Nevertheless, Sherikar et al. teach a pressure reduction system (Fig.5, Item 12) comprising fluid passageway being comprised of a tortuous flow path (Fig.5, Item 14 with each tortuous flow path remaining independent from each other in traversing through a conduit (Fig.2; Col.5, Lines 4 - 24).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Sherikar et al. configuration with the Bervig and Wears et al. design because it would provide a more uniform flow while reducing the magnitude of the fluid velocity peak.

#### ***Response to Arguments***


4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers that the patents to Bervig, Wears et al. and Sherikar et al. teach the limitations describe din the claims as discussed above.

**Contact Information**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martín whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext.33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edgardo San Martín  
Primary Examiner  
Art Unit 2837  
Class 181  
May 2, 2006